



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,681	01/28/2002	Ming-Nan Yen	JCLA7301	4020
23900	7590	09/30/2005	EXAMINER	
J C PATENTS, INC. 4 VENTURE, SUITE 250 IRVINE, CA 92618			GHEBRETINSAE, TEMESGHEN	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/058,681	YEN ET AL.	
	Examiner Temesghen Ghebretinsae	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 09 September 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,2,4-6,8,9 and 11-14 is/are rejected.
- 7) Claim(s) 3,7,10 and 15 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

1. It would be of great assistance to the Office if all incoming papers pertaining to a filed application carried the following items:

1. Application number (checked for accuracy, including series code and serial no.).
2. Group art unit number (copied from most recent Office communication).
3. Filing date.
4. Name of the examiner who prepared the most recent Office action.
5. Title of invention.
6. Confirmation number (See MPEP § 503).

The final rejection has been withdrawn. Examiner regrets for the delay of the prosecution. However, examiner did call applicant's representative to expedite the prosecution.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1,5,6,9,11and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bray et al. (5,373,255) in view of Lee et al (6,392,496)

4. Bray discloses a digital phase locked loop (fig.2) comprising: a phase detector including up/down counter (41) for comparing a feedback signal and a reference signal; sampling (sampling clock) the compared result at a predetermined frequency; a voltage control oscillator(44); and an adjustable divider (45) for feeding back (a feedback signal with a feedback frequency) and dividing down the output from the VCO. An up-

Art Unit: 2637

down converter (41) as claimed in claim 6. The post adjusting value for the post divider is adjustable (N) as claimed in claim 9. The feedback signal has a preset value as claimed in claim 11. The post adjusting value is set according to the required output frequency as claimed in claim 13. (See col.3, line to col. 4, line 47).

Bray differs from the claimed invention in that he does not have DAC for converting the digital phase adjusting signal into an analog phase adjusting signal. However, Lee discloses a PLL having a DAC for converting the digital phase adjusting signal into an analog phase adjusting signal. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a DAC in the circuit of Bray to convert the digital phase adjusting signal of Bray into an analog phase adjusting signal since DAC are well known in converting digital signal into analog signal. Furthermore it is obvious in communication art to convert the digital phase adjusting signal into analog if the VCO is analog circuit.

5. Claims 1,5,6,9,11and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bray et al. (5,373,255) in view of Wereker et al (5,856,762).

Bray discloses a digital phase locked loop (fig.2) comprising: a phase detector including up/down counter (41) for comparing a feedback signal and a reference signal; sampling (sampling clock) the compared result at a predetermined frequency; a voltage control oscillator(44); and an adjustable divider (45) for feeding back (a feedback signal with a feedback frequency) and dividing down the output from the VCO. An up-down converter (41) as claimed in claim 6. The post adjusting value for the post divider

Art Unit: 2637

is adjustable (N) as claimed in claim 9. The feedback signal has a preset value as claimed in claim 11. The post adjusting value is set according to the required output frequency as claimed in claim 13. (See col.3, line to col. 4, line 47).

Bray differs from the claimed invention in that he does not have DAC for converting the digital phase adjusting signal into an analog phase adjusting signal. However, Wereker discloses a digital phase locked loop comprising: a phase detector for comparing a feedback signal and a reference signal (51); a digital to analog converter for converting the digital phase to analog phase signal (53); a voltage control oscillator (4) and a post divider (13) for feeding back (a feedback signal with a feedback frequency) and dividing down the output from the VCO (13) (See fig.1 and col.3, line 40 to col.4, line 6). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a DAC in the circuit of Bray to convert the digital phase adjusting signal of Bray into an analog phase adjusting signal since DAC are well known in converting digital signal into analog signal. Furthermore it is obvious to convert the digital phase adjusting signal into analog if the VCO is analog circuit.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2637

7. Claims 2,4,8,12,14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bray in view of Lee further in view of Berry et al (6,366,174).

Bray and Lee discloses the claimed subject matter as described above. Bray and Lee differ from the present claimed invention in that Both are silent about pre-divider as claimed in claim 2 and 12; out put divider as claimed in claim 4 and 14; However, Berry discloses a phase locked loop apparatus comprising: an adjustable pre-divider for dividing down the input signal (20); and adjustable output divider (44). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bray's PLL circuit to show the pre-divider and output divider. One would be motivated to do so because having a PLL circuit with optional frequency multiply or frequency divide circuits can improve the latch time. (See Berry col.2, lines 1-15. and fig.1) As for the built-in self-tester, such is well know in the art (see specification page 8, lines 21-22.)

8. Claims 2,4,12,14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bray in view of Werker further in view of Berry

Bray and Werker disclose the subject matters claimed in claims 1,5,6,9,11,13 as described above. Bray and Werker differs from the present invention in that Both are silent about pre-divider as claimed in claim 2 and 12; out put divider as claimed in claim 4 and 14. However, such are disclosed by Berry and are well know in the PLL circuit and would have been obvious to have a PLL circuit with optional frequency multiply or

frequency divide circuits so that the latch (lock) time can be improved. (See Berry col. 2, lines 1-15 and fig.1).

***Allowable Subject Matter***

9. Claim 3,7,10,15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

10. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Temesghen Ghebretinsae whose telephone number is 571-272-3017. The examiner can normally be reached on Monday-Friday from 8 to 5. The examiner can also be reached on alternate

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on 572-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Art Unit: 2637

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Temesghen Ghebretinsae  
Primary Examiner  
Art Unit 2637

T.G.

9/28/05.

PRIMARY EXAMINER  
TEMESGHEN GHEBRETINSAE  
TEMESGHEN GHEBRETINSAE  
PRIMARY EXAMINER  
  
S/W/S